

## **TICK BE GONE: Promotion of methods for reducing the impact of ticks in area schools, and camps in Cortland County.**

### **Project Leader(s):**

Heather Birdsall, Associate Sr. Team Leader, CCE of Cortland County

**Cooperator(s):** Nancy Ruscio, Superintendent of Homer Central School; Michael Hoose, Superintendent of Cortland City Schools; Rebecca Stone, Superintendent of Marathon Schools; Steven Hubbard, Superintendent of Cincinnatus Schools; Mary Curcio, Superintendent of McGraw Schools, David Rutherford, Executive Director of Cornell Cooperative Extension of Cortland County – 4-H Camp Owahta

### **Abstract:**

Ticks and tick-borne diseases have become a significant public health issue in the Northeastern United States, New York State and Cortland County. Public education is extremely important in the successful implementation of any tick control program. Awareness and precaution can help you steer clear of tick-borne illness. This hands-on program, Tick Be Gone, was geared toward educating K-2<sup>nd</sup> grade students at Elementary Schools throughout Cortland County. Tick Be Gone detailed the various ways children can limit tick exposure, and provided training on personal protection, awareness and disease information all of which centers on IPM priorities.

### **Background and Justification:**

The New York State Department of Health collects and tests ticks from locations across New York State to monitor for certain tick-borne pathogens. This includes testing for the pathogen *Borrelia burgdorferi* (bacterial causative agent of Lyme disease) in *Ixodes scapularis*, the blacklegged tick, commonly known as the deer tick. The results of testing in Cortland County found 72% infected with *B.burgdorferi*. Lyme disease tops the list of [vector-borne disease](#) cases reported each year within the United States, with over 75% of cases reported in the Northeast. According to the U.S. Centers for Disease Control and Prevention (CDC), an estimated 300,000+ cases of Lyme disease occur each year in the U.S with New York ranking 3<sup>rd</sup> in the Country at 11.2%. In Cortland County alone, there were 37 confirmed cases of Lyme Disease. These were cases that met the NYSDOH guidelines for the disease. According to the Centers for Disease Control and Prevention (CDC), reported cases of Lyme disease are most common among boys 5-9 years of age.

Public education is an extremely important facet to the successful implementation of any tick control program. Educational materials that are readily available to the public should detail the various ways people can limit tick exposure and should include information on personal protection as well as awareness and disease information.

CCE of Cortland County conducted an educational hands-on program, “Tick Be Gone”. It was geared toward educating K-2<sup>nd</sup> grade students at Elementary Schools throughout Cortland County. This implementation project addressed a 2018 NYS IPM Program Community IPM Priority to develop, confirm and/or promote methods for reducing the impact of ticks in community settings. “Tick Be Gone” detailed the various ways people can limit tick exposure, information on personal protection, awareness and disease information. It also addressed the #1 ranked IPM Education/Outreach category from the 2013 Northeast School IPM Priorities

Identified and Ranked by NE School IPM Working Group, which was to develop and utilize educational methods appropriate for the audience and conduct outreach to all stakeholder groups. The “Tick Be Gone” program targeted the core age group of children ages 5-9 that have the highest reported cases of Lyme disease in the United States. The hands-on educational activity taught K-2<sup>nd</sup> grade children where ticks live, what to do if they think they have tick on them, where on their body and clothing that ticks like to hide, what ticks look like, what they do and what to look for.

**Objectives:**

1. Compile a set of educational resources to assist CCE staff and volunteers in conducting an IPM hands-on “Tick Be Gone” educational program for the Cortland County students, school officials, and 4-H Camp Owahta campers.
2. Develop an IPM educational exhibit with resources that promote best management practices for avoiding ticks and tick-borne disease to be displayed at educational programs, events, teacher in-service and prominent locations throughout the community.
3. Project Evaluation

**Procedures:**

CCE of Cortland purchased 2 Tick Smart TM” Learning Kits from the University of Rhode Island Tick Encounter Resource Center. The CCE educator will utilize the hands-on teaching kits to educate K-2<sup>nd</sup> grade students, teachers and school officials. The information in the kit detailed the various ways people can limit tick exposure, information on personal protection, awareness and disease information. Each classes lasted about 40 minutes per class.

The CCE educator visited Kindergarten, 1<sup>st</sup> and 2<sup>nd</sup> grade classes throughout Cortland County. The procedure of teaching the material varied from the Kindergarten verses the 1<sup>st</sup> and 2<sup>nd</sup> grade classes, due their inability to write, but the information covered was the same. Kindergarten - The educator began the class with asking each student what they knew about ticks. 1<sup>st</sup> and 2<sup>nd</sup> grade – A sticky note was provided to each student. The educator asked the students to write on the sticky note what they knew about ticks. The educator then handed out tick informational cards to each student. 4 different areas of information were covered in this section: Size of ticks at different life stages – larva, nymph, adult female and adult male; Identification of 3 common ticks in our area.; Location on the body and clothing where ticks like to hide.; And how to remove a tick. Since the audience was the ages Kindergarten, 1<sup>st</sup> and 2<sup>nd</sup> grade, the educator instead talked about the importance of telling an adult or caregiver if they thought they had a tick on them. For the first activity, the educator broke each class into three different groups. A fake bagel with poppy seeds was given to each of the 3 groups. Each bagel has at least 4 tick nymphs also stuck on the bagel. The significance of this activity was to teach the students the actual size of a nymph. The second activity was the TYVEC suit. A teacher’s assistant assisted the educator with this activity. The teacher’s assistance wore a TYVEC suite that had small lady bugs, butterflies, bees and ticks stuck to it. The significance of this activity was to teach students where ticks like to hide on their clothing and bodies. The educator went over all information again about ticks. She also handed out a cross word puzzles, word search for 1<sup>st</sup> and 2<sup>nd</sup> grades and 2 coloring pages for kindergarteners. Each class ended Tick education class ended with an evaluation. Two different evaluations were used due to the lack of writing ability of the

kindergarteners. The same questions were used for each evaluation; the only difference was how the questions were answered.

For 4-H Camp Owahta, the educator presented the same information to the camp counselors. This was to educate them how and where to detect ticks on campers.

**Results and discussion:**

Tick Be Gone was the ideal hands on teaching kit to educate K-2<sup>nd</sup> grade students about preventative measures of tick educator. The activities had to be changed a bit due to Kindergarteners inability to write. When the educator asked the initial question to each age group, “What did they already know about ticks”, The kindergarteners all eagerly raised their hand. The 1<sup>st</sup> and 2<sup>nd</sup> graders quickly began writing response about ticks.

The evaluations for the Kindergarteners had to be changed after the first time presenting to that age class. This again is due to their inability to write. I changed their evaluations to instead of writing responses to my questions, to circling emojis. Smiley with 2 thumbs up, So/So with average thumb and a smirk of a face with thumbs down. This was a much better way to determine if this particular information was being understood by the students.

I found that depending on the students age, grade, learning ability, etc; the answers to my evaluation questions were very positive. The majority of the students indicated that they indeed learned about the size of the tick, where they like to hide and what to do if they think a tick is on them.

I understand that this grant was written to educate the age of students that are the highest effected by Lyme Disease, 5-8 years old. However, this hands-on educational program would be extremely beneficial for all youth, grades 7-12 due to sometimes they are more ept to check their own body/ clothing for ticks and could maybe understand the significance of tick education.

I have offered to present this hands on educational presentation to other grade levels.

**Project t location(s):**

Cortland County

**Samples of resources developed: (if applicable)**

Quotes:

Heather,

Thank you so much for coming in today. The kids really enjoyed your lesson. Abby Kindergarten- teacher, Barry Elementary